



HP/2611
Jm
RCA 89,399

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicants: Ozkan et al.

Examiner: Huynh, S.

Serial No: 09/622,329

Group Art Unit: 2611

Filed: August 16, 2000

Docket: RCA89399 (156-144)

For: A MULTIMEDIA SYSTEM FOR PROCESSING PROGRAM GUIDES AND
ASSOCIATED MULTIMEDIA OBJECTS

Mail Stop Appeal Brief-Patents
Hon. Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Applicant appeals the status of Claims 1-6, 17-22, 24, 26, and 27 as presented in response to the previous non-final Office Action mailed March 29, 2004 pursuant to the Notice of Appeal mailed November 19, 2004 and submits this appeal brief.

CERTIFICATE OF MAILING 37 C.F.R. §1.8(a)

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Dated: 1/5/2005

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A. Introduction

B. Whether Claims 1, 17, 22, 24, 26, and 27 are unpatentable under 35 U.S.C. §103 over U.S. Patent No. 6,357,043 to Ellis et al. in view of U.S. Patent No. 5,563,648 to Menand et al.

B1. The Cited References Do Not Teach or Suggest Acquiring/Forming Ancillary Information in Packetized Program Data, the Ancillary Information including a Non-displayed Map for Associating an Object with a Program Guide Information Item

B2. The Cited References Do Not Teach or Suggest Acquiring Packetized Program Information Including Ancillary Information and Program Guide Information, the Ancillary Information Including, (a) an Object File Comprising Application Software for Use in

Commanding a Device, and (b) a Directory for Associating the Application Software with a Program Listed in the Program Guide Information; and Executing the Application Software to Command the Device in Processing the Listed Program

B3. The Cited References Do Not Teach or Suggest Acquiring Ancillary Information in Packetized Program Data, the Ancillary Information Including an Object File Decoding Complexity Level Indicator, and a Processor for Disregarding Object Files of Complexity Level Exceeding a Predetermined Level

C. Conclusion

APPENDIX I: CLAIMS

APPENDIX II: Selected Portions of Webster's New World Dictionary of the American Language, 1974.

1. **Real Party in Interest**

The real party in interest is THOMSON LICENSING INC., the assignee of the entire right title and interest in and to the subject application by virtue of an assignment recorded with the Patent Office on February 26, 2001 at reel/frame 011579/0930.

2. **Related Appeals and Interferences**

None.

3. **Status of Claims**

Claims 7-16 and 25 have been previously cancelled. Claims 1-6, 17-24, 26, and 27 are pending and stand rejected. Claims 1-6, 17-22, 24, 26, and 27 are under appeal. A copy of the claims 1-6, 17-24, 26, and 27 is presented in Appendix I.

4. **Status of Amendments**

An Amendment under 37 CFR §1.111 mailed to the PTO on June 21, 2004 in response to the previous non-final Office Action dated March 29, 2004 was entered.

5. **Summary of the Invention**

The present invention is directed to apparatus and methods for decoding packetized program data from at least a first source (Preambles, independent Claims 1, 17, 22, 24, and 26) and forming packetized program data to be suitable for processing in a decoder (Preamble, independent Claim 27). The apparatus and methods may be used to provide a program guide (Preambles, Claims 1, 22, and 24).

6. Issues

1) Whether Claims 1, 17, 22, 24, 26, and 27 are unpatentable under 35 U.S.C. §103 over U.S. Patent No. 6,357,043 to Ellis et al. (hereinafter “Ellis”) in view of U.S. Patent No. 5,563,648 to Menand et al. (hereinafter “Menand”).

7. Grouping of Claims

Claims 2-6 stand or fall with Claim 1. Claims 18-21 stand or fall with Claim 17. Claims 22, 24, 26, and 27 each stand or fall by themselves.

8. Argument**A. Introduction**

The present invention provides a novel solution to the problems associated with processing program guides and associated multimedia objects. Advantageously, the present invention solves “[t]he problems involved in processing large quantities of program guide information and in achieving a desirable compromise between transmission bandwidth and decoder complexity” (Applicants’ specification, p. 2, lines 13-16). Moreover, the present invention also addresses “[d]erivative problems involved in structuring and partitioning program guide data to facilitate both decoding and selectable program guide generation by a decoder” (Applicants’ specification, p. 2, lines 17-19).

The claims of the pending invention include novel features not shown in the cited references and that have already been pointed out to the Examiner. These features provide advantages over the prior art.

It is respectfully asserted that Claims 1, 17, 22, 24, 26, and 27 are each patentably distinct and non-obvious over the cited references in their own right. For example, the below-identified limitations of Claims 1, 17, 22, 24, 26, and 27 are not shown in any of the cited references, either taken alone or in any combination. Moreover, these Claims are distinct from each other in that they are directed to different items as recited in their respective preambles and/or include different patentable limitations. For example, while Claims 1, 17, and 22 are each directed to an apparatus, they each include different patentable limitations with respect to the prior art. Moreover, while Claims 24, 26, and 27 are each directed to a method, they each include different patentable limitations with respect to the prior art. These different patentable limitations are further described herein below in detail with respect to the references cited in the pending rejections thereof. Thus, each claim represents separate features of the invention with respect to the prior art and to the other claims. As such, Claims 1, 17, 22, 24, 26, and 27 are separately patentable and are each presented for review in this appeal.

B. Whether Claims 1, 17, 22, 24, 26, and 27 are unpatentable under 35 U.S.C. §103 over U.S. Patent No. 6,357,043 to Ellis et al. in view of U.S. Patent No. 5,563,648 to Menand et al.

“To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art” (MPEP §2143.03, citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)). “If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious” (MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)).

The Examiner rejected Claims 1, 17, 22, 24, 26, and 27 as being unpatentable under 35 U.S.C. 103 over to Ellis et al. (hereinafter "Ellis") in view of Menand et al. (hereinafter "Menand"). The Examiner contends that the cited combination shows all the elements recited in Claims 1, 17, 22, 24, 26, and 27.

Taking the references one at a time, Ellis is directed to an electronic television program guide with remote product ordering (Ellis, Title). That is, an objective of Ellis is to provide "[a]n electronic program schedule system with product ordering capability.... The program schedule information indicates the availability of a product or service for certain of the programs included in the program information, wherein the product or service is associated with the program, such as a program transcript of videocassette. The viewer utilizes the remote control apparatus to generate a first command for displaying information on the receiver describing the product or service, and a second command for placing an order for the product or service. The data processor receives the user control commands and in response to the first command causes the video display generator to display information describing the product or service and in response to the second command generates an order for the product or service" (Ellis, Abstract).

Menand is directed to a method for controlling execution of an audio video interactive program (Menand, Title). In particular, Menand provides "[i]n an audio video interactive (AVI) receiver receiving a packet stream including a directory and an AVI program having an associated identifier in the directory, a method ... for controlling the execution of the AVI program.... First, loading the AVI program into a memory in response to the presence of the AVI program in the packet stream. Then beginning execution of the loaded AVI program. And then minimizing the executing AVI program when a directory identifying a different AVI program is detected in the packet stream" (Menand, Abstract).

It will be shown herein below that the limitations of Claims 1, 17, 22, 24, 26, and 27 reproduced herein are not shown in any of the cited references, either taken singly or in any combination, and that such Claims should be allowed including those dependent there from as identified in Section 7 herein.

B1. The Cited References Do Not Teach or Suggest Acquiring/Forming Ancillary Information in Packetized Program Data, the Ancillary Information including a Non-displayed Map for Associating an Object with a Program Guide Information Item

None of the cited references teach or suggest “a processor ... for acquiring ancillary information in said packetized program data, said ancillary information including ... a non-displayed map for associating an object with a program guide information item”, as recited in Claim 1.

Further, none of the cited references teach or suggest “acquiring ancillary information in said packetized program data, said ancillary information including ... (b) a non-displayed map for associating an object with a program guide information item”, as recited in Claim 24.

Also, none of the cited references teach or suggest “forming program guide information and ancillary information including, ... a non-displayed map for associating said object files with said program guide information items; incorporating said ancillary information and said program guide information into packetized data”, as recited in Claim 27.

Thus, Claims 1 and 24 essentially recite that ancillary information is acquired from packetized program data, and that that ancillary information ALREADY INCLUDES A NON-DISPLAYED MAP for associating an object with a program guide information item. That is,

there is no need to form a non-displayed map from the ancillary information included in the packetized program data, as the non-displayed map is **ALREADY INCLUDED IN THE ANCILLARY INFORMATION THAT, IN TURN, IS INCLUDED IN THE PACKETIZED INFORMATION.**

Further, Claim 27 essentially recites that ancillary information is formed to, in turn, form packetized program data that includes the ancillary information, and that that ancillary information is formed to **ALREADY INCLUDE A NON-DISPLAYED MAP** for associating object files with program guide information items. That is, there is no need to form a non-displayed map from the ancillary information included in the packetized program data once that packetized program data is received at a receiver end, as the non-displayed map is **ALREADY INCLUDED IN THE FORMED ANCILLARY INFORMATION THAT, IN TURN, IS INCLUDED IN THE FORMED PACKETIZED INFORMATION.**

In contrast, the cited section of Ellis, namely column 8, line 40 to column 10, line 45, discloses that “[b]ootstrap operating software, which may be used for capturing electronic program guide application software updates, is stored in a read only memory (ROM) 17. The microcontroller 16 uses the received program schedule information to build a database by storing the data in appropriately organized records in dynamic random access memory (DRAM) 18. The stored schedule information can be updated on a periodic basis, such as hourly, daily or weekly, or at any time when changes in scheduling or other factors warrant an update” (Ellis, col. 9, lines 4-13). A portion of the remainder of the cited section of Ellis discloses that instead of DRAM, the data may be stored in an EEPROM or SRAM. That is, Ellis teaches the storing of received program schedule information in a memory (DRAM, EEPROM, SRAM) and the building of a database from received program schedule information.

With respect to the above-cited limitations of Claims 1, 24, and 27, first, a database is not necessarily a map. Second, the map recited in these claims is **already formed and included in ancillary information** that, in turn, is **included in packetized data**. Third, the database is not disclosed as being used for associating an object with a program guide information item, as is the map recited in Claims 1, 24, and 27. For example, Ellis simply discloses that “the microcontroller 16 takes the program schedule information stored in the DRAM 18 and, in conjunction with other downloaded data types such as stored bit maps for the screen configuration and the graphic symbol or logo displays stored in non-volatile memory 20 or, alternatively, in DRAM 18, supplies it to a video display generator (VDG) 23, which in the present embodiment may be a commercially available VGA-type graphics card....” (Ellis, col. 10, lines 14-20). However, the preceding disclosure of Ellis as well as the remainder of the cited section of Ellis does not disclose or even remotely suggest that the database (which is not equivalent to the non-displayed map, contrary to the Examiner’s assertion) is for associating an object with a program guide information item as essentially recited in Claims 1 and 24. For example, Ellis does not disclose how or even if the program schedule information is associated with the other downloaded data types.

Menand does not cure the deficiencies of Ellis and was not relied upon by the Examiner with respect to rejecting the above-cited limitations of Claims 1, 24, and 27.

Thus, none of the cited references, either taken singly or in any combination, teach or suggest acquiring ancillary information in packetized program data, the ancillary information including ... a non-displayed map for associating an object with a program guide information item, as essentially recited in Claims 1 and 24. Further, none of the cited references, either taken singly or in any combination, teach or suggest forming program guide information and ancillary

information including, a non-displayed map for associating object files with program guide information items; incorporating the ancillary information and the program guide information into packetized data, as essentially recited in Claim 27. Accordingly, Claims 1, 24, and 27 are patentably distinct and non-obvious over the cited references for at least the reasons set forth above. Therefore, withdrawal of the rejection and allowance of Claims 1 (and, thus, also Claims 2-6), 24, and 27 is earnestly requested.

B2. The Cited References Do Not Teach or Suggest Acquiring Packetized Program Information Including Ancillary Information and Program Guide Information, the Ancillary Information Including, (a) an Object File Comprising Application Software for Use in Commanding a Device, and (b) a Directory for Associating the Application Software with a Program Listed in the Program Guide Information; and Executing the Application Software to Command the Device in Processing the Listed Program

None of the cited references teach or suggest “acquiring packetized program information including ancillary information and program guide information, said ancillary information including, (a) an object file comprising application software for use in commanding a device, and (b) a directory for associating said application software with a program listed in said program guide information; and ... executing said application software to command said device in processing said listed program”, as recited in Claims 17 and 26.

That is, Claims 17 and 26 essentially recite acquiring packetized program information that includes both ancillary information and program guide information, the ancillary

information, in turn, including, an object file comprising application software for use in commanding a device and a directory for associating application software with a program listed in the program guide information, and executing the application software to command the device in processing the listed program (in the program guide information that was included in the acquired packetized program information).

The Examiner has stated that “an object file reads on the services available in the operator geographical market such as application software (col. 8, line 50-col.9, line 50)” (Office Action dated October 21, 2004, p. 8). The cited portion of Ellis discloses that “the data stream contains program schedule information for all television programs and other services available in the operator’s geographical market” (Ellis, col. 8, lines 50-52). “[T]he transmitted data stream may additionally contain application software for implementing or updating the electronic program guide at the user site” (Ellis, col. 8, lines 61-63). “If the microcontroller 16 recognizes the received data as application software ... it stores it in non-volatile memory, such as an EEPROM” (Ellis, col. 9, lines 21-24). “After the accuracy of the application software has been verified, the microcontroller 16 initiates a routine to re-program the EEPROM, where the application program is permanently stored. The microcontroller 16 will issue proper control commands to a reprogram circuit 21, which is adapted to supply the proper program voltage and logic control signals 22 required to erase and write to the EEPROM. It supplies this program voltage, V_{prog} , as well as any other required control signals, such as read or write enable, to the EEPROM 20 upon command from the microcontroller 16. After the EEPROM 20 has been electrically erased, the microcontroller 16 initiates transfer of the new application software from the DRAM 18 to the EEPROM 20 for storing” (Ellis, col. 9, lines 37-50).

Thus, Ellis does not disclose that the application software is for use in commanding a

device that PROCESSES a program listed in the program guide information. That is, Ellis does not disclose that the application software is executed to command a device to process the program, but rather that a microcontroller controls an EEPROM to **store the application software itself**. Moreover, as admitted by the Examiner in the Office Action dated October 21, 2004 (p. 8 thereof) Ellis does not disclose a directory that associates the application software with the program listed in the program guide information (that is processed by the device that, in turn, is commanded by the execution of the application software). This interaction between the above-cited limitations does not seem to be addressed by the Examiner with respect to the cited references.

Menand does not cure the deficiencies of Ellis. Menand was relied upon by the Examiner with respect to the directory limitation recited above. The cited section of Menand (col. 1, line 62-col. 2, line 14) essentially discloses that “[t]he interactive application program information component consists of one or more code modules (containing executable code), possibly one or more data modules, and a directory module which includes data describing the code and data modules making up the interactive application program component” (Menand, col. 1, lines 62-67). However, Menand does not disclose that that the directory module associates the application software (assuming arguendo to correspond to the one or more code modules) to a PROGRAM listed in the program guide information

Thus, none of the cited references, either taken singly or in any combination, teach or suggest “acquiring packetized program information including ancillary information and program guide information, said ancillary information including, (a) an object file comprising application software for use in commanding a device, and (b) a directory for associating said application software with a program listed in said program guide information; and ... executing said

application software to command said device in processing said listed program”, as recited in Claims 17 and 26. Accordingly, Claims 17 and 26 are patentably distinct and non-obvious over the cited references for at least the reasons set forth above. Therefore, withdrawal of the rejection and allowance of Claims 17 (and, thus, also Claims 18-21) and 26 is earnestly requested.

B3. The Cited References Do Not Teach or Suggest Acquiring Ancillary Information in Packetized Program Data, the Ancillary Information Including an Object File Decoding Complexity Level Indicator, and a Processor for Disregarding Object Files of Complexity Level Exceeding a Predetermined Level

None of the cited references teach or suggest “an object file DECODING complexity level indicator, and a processor for disregarding object files of complexity level exceeding a predetermined level”, as recited in Claim 22.

The Examiner has stated in the Office Action dated October 21, 2004 (p. 9 thereof) with respect to Ellis that “codes corresponding to a program’s rating, parental guidance category, title or channel or unique digital identifier for each program along with its schedule information, read on the object file decoding complexity level indicator (col. 25, lines 5-54, col. 27, line 48-col. 28, line 12; col. 33, lines 40-50).

“Complexity” is defined in Webster’s New World Dictionary of the American Language as “the condition of quality of being complex” (Webster’s New World Dictionary of the American Language, William Collins + World Publishing Co., Inc., p. 290 1974, included herewith in Appendix II). “Complex” is defined as “not simple; involved or complicated” (Webster’s New

World Dictionary of the American Language, William Collins + World Publishing Co., Inc., p. 290
1974, included herewith in Appendix II).

Thus, Applicants respectfully assert that “**decoding complexity**”, that is, the complexity involved in **DECODING** an object file, has NOTHING to do with a program rating, a parental rating (e.g., General Audiences, Restricted Audiences), a title, channel, or unique identifier, or schedule information. For example, the title of an object file or its parental rating has nothing to do with, and does not indicate, whether a given object file is, e.g., too complex for a given decoder. Further, the fact that a given program has a R rating versus a G rating does not, by itself, necessarily render the former more complex for a decoder with respect to decoding the former versus the latter. As is known, decoding complexity may be invoked in high resolution versus low resolution image frames or sequences, and so forth. The decoding of, e.g., one title versus another title cannot be reasonably construed to involve such different levels of decoding complexity as to warrant and be directed to decoding complexity.

Menand does not cure the deficiencies of Ellis and was not relied upon by the Examiner with respect to rejecting the above-cited limitations of Claim 22.

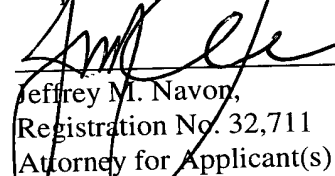
Thus, none of the cited references, either taken singly or in any combination, teach or suggest an object file decoding complexity level indicator, and a processor for disregarding object files of complexity level exceeding a predetermined level, as essentially recited in Claim 22. Accordingly, Claim 22 is patentably distinct and non-obvious over the cited references for at least the reasons set forth above. Therefore, withdrawal of the rejection and allowance of Claim 22 is earnestly requested.

C. Conclusion

At least the above-identified limitations of the pending claims are not disclosed or suggested by the teachings of the applied art references, either alone or in any combination. Accordingly, it is respectfully requested that the Board reverse the rejection of claims 1-6, 17-21, 22, 24, 26, and 27 under 35 U.S.C. §103.

It is believed that no additional fees or charges are currently due. However, in the event that any additional fees or charges are required at this time in connection with the application, they may be charged to applicant's Deposit Account No. .

Respectfully submitted,



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APPENDIX I: CLAIMS

1. (Previously Presented) Apparatus for decoding packetized program data from at least a first source to provide a program guide, comprising:
 - a processor for acquiring program guide information and for acquiring ancillary information in said packetized program data, said ancillary information including,
 - (a) a directory of executable software application files associated with objects, and
 - (b) a non-displayed map for associating an object with a program guide information item;
 - a processor for executing a software application to create an object and linking said object to a program guide information item; and
 - a display processor for forming a composite image including said image object and said program guide information item to provide a program guide for display.
2. (Original) Apparatus according to claim 1, wherein said directory of executable software application files lists a file associated with at least one of (a) a broadcast program, (b) a broadcast channel and (c) User interface controls.
3. (Original) Apparatus according to claim 1, wherein an object comprises at least one of (a) a video segment, (b) an audio segment, (c) text, (d) an icon representing a user selectable item for display, (e) an HTML or SGML document (f) a menu of selectable items, (g) an image window for presentation within an encompassing image, and (h) an image window for initiating a multimedia function.

4. (Original) Apparatus according to claim 1, wherein said ancillary information further includes acquisition information for use in acquiring said ancillary information from a second source different to said first source, and

said acquisition information includes one of (a) an Internet URL, (b) an Internet IP address, (c) an Email address, and (d) a telephone/fax/videophone number.

5. (Original) Apparatus according to claim 1, wherein said display processor provides said program guide for display in response to a User selection input command selecting between available program guides.

6. (Original) Apparatus according to claim 1, wherein said ancillary information includes an object complexity level indicator, and said apparatus disregards objects of complexity level exceeding a predetermined level.

Claim 7-16 (Cancelled)

17. (Previously Presented) Apparatus for decoding packetized program data from at least a first source, comprising:

a processor for acquiring packetized program information including ancillary information and program guide information, said ancillary information including,

(a) an object file comprising application software for use in commanding a device, and

(b) a directory for associating said application software with a program listed in said program guide information; and

a processor using said ancillary information and for executing said application software to command said device in processing said listed program.

18. (Original) Apparatus according to claim 17, wherein said application software performs at least one of the following functions, (a) commands a VCR/DVD device to record a program at a scheduled broadcast time, (b) commands said apparatus to tune to a particular broadcast video channel, (c) commands said apparatus to tune to a particular broadcast audio channel.

19. (Original) Apparatus according to claim 17, wherein said application software comprises at least one of, (a) an HTML or SGML file, (b) a Java™ file, (c) an ActiveX™ file, (d) a web browser and (e) a decoder supported software language file.

20. (Original) Apparatus according to claim 17, wherein said directory lists a file associated with at least one of (a) a broadcast program, (b) a broadcast channel, (c) User interface controls, and (d) a peripheral device attached to said apparatus.

21. (Original) Apparatus according to claim 17, wherein said ancillary information includes an object file complexity level indicator, and said apparatus disregards object files of complexity level exceeding a predetermined level.

22. (Previously Presented) Apparatus for decoding packetized program data from at least a first source to provide a program guide, comprising:

a processor for acquiring program guide information and for acquiring ancillary information in said packetized program data, said ancillary information including,

(a) a directory of object files associated with program guide information items, and

(b) an object file decoding complexity level indicator, and

a processor for disregarding object files of complexity level exceeding a predetermined level and for creating an image object from an object file and linking said image object to a program guide information item; and

a display processor for forming a composite image including said image object and said program guide information item to provide a program guide for display.

23. (Previously Presented) A storage medium containing digital data representing video information comprising:

packetized program information representing a video program;

ancillary information including information for processing multimedia objects comprising,

(a) a directory of executable software application files associated with objects, and

(b) a non-displayed map for associating an object with a program guide information item; and

information for executing a software application to create an object and linking

said object to a program guide information item in an image for display.

24. (Previously Presented) A method for decoding packetized program data from at least a first source to provide a program guide, comprising the steps of:

acquiring program guide information and for acquiring ancillary information in said packetized program data, said ancillary information including,

(a) a directory of executable software application files associated with objects, and

(b) a non-displayed map for associating an object with a program guide information item; and

executing a software application to create an object;

linking said image object to a program guide information item; and

forming a composite image including said image object and said program guide information item to provide a program guide for display.

Claim 25 (Cancelled)

26. (Original) A method for decoding packetized program data from at least a first source, comprising the steps of:

acquiring packetized program information including ancillary information and program guide information, said ancillary information including,

(a) an object file comprising application software for use in commanding a device, and

(b) a directory for associating said application software with a program listed in said program guide information; and
using said ancillary information to determine a program for processing by a device; and
executing said application software to command said device in processing said listed program.

27. (Previously Presented) A method for forming packetized program data to be suitable for processing in a decoder, comprising the steps of:

forming program guide information and ancillary information including,

(a) a directory of object files associated with program guide information items, and

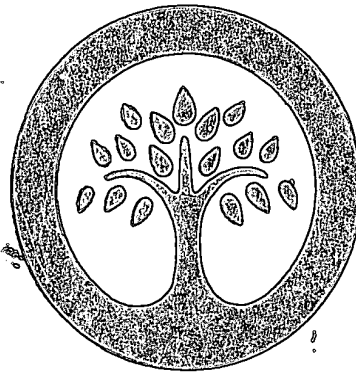
(b) a non-displayed map for associating said object files with said program guide information items;

incorporating said ancillary information and said program guide information into packetized data for output to a transmission channel.

APPENDIX II: Selected Portions of Webster's New World Dictionary of the American

Language

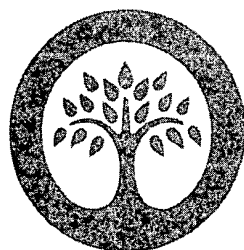
SECOND COLLEGE EDITION



NEW WORLD
DICTIONARY

OF THE AMERICAN LANGUAGE

SECOND COLLEGE EDITION



WEBSTER'S NEW WORLD DICTIONARY

OF THE AMERICAN LANGUAGE

DAVID B. GURALNIK, *Editor in Chief*

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CLEVELAND • NEW YORK

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Library of Congress Catalog Card Number: 74-5544

ISBN 60E 0-529-05189-3

ISBN 60E-I 0-529-05190-7

PRINTED IN THE UNITED STATES OF AMERICA

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even hostility; *emulation* implies endeavor to equal or surpass in achievement, character, etc. another, usually one greatly admired
com-pet-i-tive (kəm pet'ə tiv) *adj.* of, involving, or based on competition: also *com-pet'i-to-ry* (-tôr'ē) —*com-pet'i-tive-ly adv.* —*com-pet'i-tive-ness n.*

com-pet-i-tor (-tər) *n.* [L.] a person who competes, as a business rival

Com-plègne (kōn pyen'y') town in N France, on the Oise River; the armistices between the Allies & Germany (1918) & Germany & France (1940) were signed near here: pop. 24,000

com-pli-la-tion (kām'plā lā'shən) *n.* [ME. *compilacioun* < L. *compilatio*, a pillaging, hence collection of documents < *compilatus*, pp. of *ff.*] 1. the act of compiling 2. something compiled, as a book, report, etc.

com-pile (kəm pil') *vt.* -pled', -pli'ing [ME. *compilen* < OFr. *compiler* < L. *compilare*, to snatch together, plunder < *com-*, together + *pilare*, to compress, ram down] 1. to gather and put together (statistics, facts, etc.) in an orderly form 2. to compose (a book, etc.) of materials gathered from various sources

com-pla-cen-cy (kəm plās'ən sē) *n.* [LL. *complacentia* < L. *complacens*: see *ff.*] quiet satisfaction; contentment; often, specif., self-satisfaction, or smugness: also *com-pla'cence* (-plās'ns)

com-pla-cent (-'nt) *adj.* [L. *complacens*, prp. of *complacere*, to be very pleasing < *com-*, intens. + *placere*, to PLEASE] 1. satisfied; esp., self-satisfied, or smug 2. affable; *complaisant* —*com-pla-cent-ly adv.*

com-plain (kəm plān') *vi.* [ME. *compleinen* < OFr. *complaindre* < VL. *complangere*, orig., to beat the breast < L. *com-*, intens. + *plangere*, to strike] 1. to claim or express pain, displeasure, etc. 2. to find fault; declare annoyance 3. to make an accusation; bring a formal charge —*com-plain'er n.*

com-plain-ant (-ənt) *n.* [ME. *complainant* < prp. of OFr. *complaindre*: see *prec.*] Law a person who files a charge or makes the complaint in court; plaintiff

com-plaint (kəm plānt') *n.* [ME. & OFr. *complainte* < *complaindre*] 1. the act of complaining; utterance of pain, displeasure, annoyance, etc. 2. a subject or cause for complaining; grievance 3. an illness; ailment 4. Law a formal charge or accusation

com-plai-sance (kəm plā'z'ns, -s'ns; chiefly Brit. kām'pli zans') *n.* [Fr. < *ff.*] 1. willingness to please; disposition to be obliging and agreeable; affability 2. an act or instance of this

com-plai-sant (kəm plā'z'nt, -s'nt; chiefly Brit. kām'pli zant') *adj.* [Fr., prp. of *complaire* < L. *complacere*: see COMPLACENT] willing to please; affably agreeable; obliging —*com-plai-sant-ly adv.*

com-pleat (kəm plēt') *adj.* *archaic sp. of COMPLETE*
com-plect (kəm plekt') *vt.* [L. *complecti*: see COMPLEX]

[Archaic] to twine together; interweave
com-plect-ed (-plek'tid) *adj.* [altered < COMPLEXIONED] [Dial. or Colloq.] same as COMPLEXIONED

com-ple-men-t (kām'plə mēnt; for *v.* -ment') *n.* [ME. < L. *complementum*, that which fills up

or completes < *com-ple-re*: see COMPLETE] 1. that which completes or brings to perfection 2. the amount or number needed to fill or complete 3. a complete set; entirety 4. something added to complete a whole; either of two parts that complete each other 5. *Gram.* a word or group of words that, with the verb, complete the meaning and structure of the predicate (Ex.: *foreman* in *make him foreman*, *paid* in *he expects to get paid*) 6. *Immunology* any of a group of heat-sensitive proteins in the blood plasma that act with specific antibodies to destroy corresponding antigens, as bacteria or foreign proteins 7. *Math.* a) the number of degrees that must be added to a given angle or arc to make it equal 90 degrees b) the subset which must be added to any given subset to yield the original set 8. *Music* the difference between a given interval and the complete octave 9. *Naut.* the full crew of officers and men assigned to a ship —*ut.* to make complete; be a complement to

com-ple-men-tar-i-ty (kām'plə mēn ter'ə tē) *n.* [*< ff.* + -ITY] the state or fact of being complementary; necessary interrelationship or correspondence

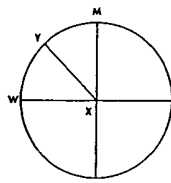
com-ple-men-ta-ry (kām'plə mēn'tər'ē) *adj.* 1. acting as a complement; completing 2. mutually making up what is lacking Also *com'ple-men'tal*

complementary angle either of two angles that together form a 90° angle

complementary colors any two colors of the spectrum that, combined in the right intensities, produce white or nearly white light

complement fixation *Immunology* the entering of complement into the product of an antigen-antibody reaction where it becomes inactive: used as an indicator in certain serological tests

com-plete (kəm plēt') *adj.* [ME. & OFr. *complet* < L.



COMPLEMENT
 (arc YM, complement
 of arc WY; angle
 YXM, complement of
 angle WXY)

completus, pp. of *comple-re*, to fill up, complete < *com-*, intens. + *plere*, to fill: for IE. base see FULL] 1. lacking no component part; full; whole; entire 2. brought to a conclusion; ended; finished 3. thorough; absolute [to have *complete* confidence in someone] 4. accomplished; skilled; consummate —*vt.* -plet'ed, -plet'ing 1. to end; finish; conclude 2. to make whole, full, or perfect —*com-plete-ly adv.* —*com-plete-ness n.*

com-plete implies inclusion of all that is needed for the integrity, perfection, or fulfillment of something [a *complete* set; *complete* control]; full implies the inclusion of all that is needed [a full dozen] or all that can be held, achieved, etc. [in full bloom]; total implies an adding together of everything without exception [total number] and is, in general applications, equivalent to *complete* [total abstinence]; whole and entire imply unbroken unity, stressing that not a single part, individual, instance, etc. has been omitted or diminished [the whole student body, one's entire attention]; intact is applied to that which remains whole after passing through an experience that might have impaired it [the tornado left the barn intact] See also CLOSE² —**ANT.** partial, defective
complete metamorphosis physical changes in the development of certain insects that include egg, larva, pupa, and adult stages, as in beetles, moths, bees, etc.

com-ple-tion (kəm plē'shən) *n.* [ME. < L. *completio*] 1. the act of completing, or finishing 2. the state of being completed

com-plex (kəm pleks'; also, and for *n.* always, kām'pleks) *adj.* [*< L. complexus*, pp. of *complecti*, to encircle, embrace < *com-*, with + *plectere*, to weave, braid] 1. consisting of two or more related parts 2. not simple; involved or complicated —*n.* 1. a group of interrelated ideas, activities, etc. that form, or are viewed as forming, a single whole 2. an assemblage of units, as buildings or roadways, that together form a single comprehensive group 3. *Psychoanalysis* a) an integration of impulses, ideas, and emotions related to a particular object, activity, etc., largely unconscious, but strongly influencing the individual's attitudes and behavior b) popularly, an exaggerated dislike or fear; obsession —*com-plex-ly adv.*

com-plex refers to that which is made up of many elaborately interrelated or interconnected parts, so that much study or knowledge is needed to understand or operate it [a *complex* mechanism]; complicated is applied to that which is highly complex and hence very difficult to analyze, solve, or understand [a *complicated* problem]; intricate specifically suggests a perplexingly elaborate interweaving of parts that is difficult to follow [an intricate maze]; involved, in this connection, is applied to situations, ideas, etc. whose parts are thought of as intertwining in complicated, often disordered, fashion [an involved argument] —**ANT.** simple

complex fraction a fraction with a fraction in its numerator or denominator, or in both

com-plex-ion (kəm plek'shən) *n.* [ME. *complexioun* < OFr. *complexion*, combination of humors, hence temperament < L. *complexio*, combination < *complexus*: see COMPLEX] 1. a) orig., the combination of the qualities of cold, heat, dryness, and moisture, or of the four humors, in certain proportions believed to determine the temperament and constitution of the body b) the temperament or constitution 2. the color, texture, and general appearance of the skin, esp. of the face 3. general appearance or nature; character; aspect —*com-plex-ion-al adj.*

com-plex-ion-ed (-shənd) *adj.* having a (specified) complexion [light-complexioned]

com-plex-i-ty (kəm plek'sə tē) *n.* 1. the condition or quality of being complex 2. pl. -ties anything complex or intricate; complication

complex number a number expressed as the formal sum of a real number and a multiple of the square root of -1 (Ex.: $a + b\sqrt{-1}$, when a and b are real)

complex sentence in traditional grammar, a sentence consisting of a main clause and one or more subordinate clauses

com-pli-a-ble (kəm pli'ə b'l) *adj.* [Archaic] compliant
com-pli-ance (-əns) *n.* 1. a complying, or giving in to a request, wish, demand, etc.; acquiescence 2. a tendency to give in readily to others Also *com-pli'an-cy* —**in compliance with** in accordance with

com-pli-ant (-ənt) *adj.* complying or tending to comply; yielding; submissive —**SYN.** see OBEIENT —*com-pli-ant-ly adv.*

com-pli-ca-cy (kām'pli kə sē) *n.* 1. the condition or quality of being complicated 2. pl. -cies anything complicated; complication

com-pli-cate (kām'plə kāt'; for *adj.* -kit) *vt.*, *vi.* -cat'ed, -cat'ing [*< L. complicatus*, pp. of *complicare*, to fold together < *com-*, together + *plicare*, to fold, weave < IE. base *plek-, to braid (< *pel-, to fold), whence FLAX] 1. to make or become intricate, difficult, or involved 2. [Obs.] to twist together —*adj.* 1. [Archaic] complicated 2. Biol. folded lengthwise, as some leaves or insects' wings

com-pli-cat-ed (-kāt'id) *adj.* made up of parts intricately involved; hard to untangle, solve, understand, analyze, etc. —**SYN.** see COMPLEX —*com-pli-cat-ed-ly adv.*

com-pli-ca-tion (kām'plə kā'shən) *n.* 1. the act of complicating, or making involved 2. a complicated condition or structure; complex, involved, or confused relationship of parts 3. a complicating factor or occurrence as in the plot of a story or in the unfolding of events 4. *Med.* a second disease or abnormal condition occurring during the course of a primary disease